Release Notes

Date: March 2009

Product: Driver for Linux

Version: 8.2.0.39

This document describes the new features, resolved known issues and current known issues associated with this driver build release. For the latest product documentation, go to www.Emulex.com. If you have any questions or require additional information, contact an authorized Emulex Corporation technical support representative.

New Features Driver for Linux 8.2.0.39

1. **Supports the LP21000 and LP21002 FCoE adapters.** (10 Gb/s capable)
2. **Supports the LPe1250, LPe1252, LPe12000 and LPe12002 adapters.** (2, 4 and 8 Gb/s capable)
3. **Supports the latest HBAnyware utility version 4.1 as part of master kit.** Refer to the HBAnyware Utility User Manual for more information.
4. **Adds the ability to control I/O queue depth based on the I/O completion time.**
5. **Adds interfaces via the sysfs filesystem to update speed and topology parameters without requiring link bounce.**

Resolved Issues in Driver for Linux 8.2.0.39

1. A CEE firmware upgrade with a Converged Network Adapter (CNA) did not work properly. This discovery issue has been resolved.
2. The firmware diagnostic dump process took too long to complete. This logging issue has been resolved.
3. Loopback tests failed on CNAs. This loopback mode issue has been resolved.
4. Echo tests failed when NPIV was enabled.This issue has been resolved.
5. Emulex HBAs potentially could not initialize properly when used in Virtualized Environments with SFPT (Storage Fixed Pass through) or Direct I/O. This potential issue has been resolved.
6. The RSCN address format was not handled properly. This event qualifier issue has been resolved.
7. The Emulex LPFC driver used the mdelay function in the IOCTL process path. The driver was updated to use the msleep function instead.
8. The HBAnyware Security Configurator could not communicate with certain servers. This issue was resolved by increasing internal buffers to support 40KB SSC sequences.
9. Updates to the WWN via management utilities were taking effect immediately. This issue was resolved by allowing the updates to take effect after a (warm) system reboot.

Known Issues in Driver for Linux 8.2.0.39

1. PCI Hot Plug may cause applications to malfunction

Performing a PCI Hot Plug may cause the HBAnyware utilities or third party applications that use the Emulex libraries (i.e. HBAAPI) to behave unpredictably or malfunction.

Workaround:

1. Stop all applications that are accessing LPFC's HBAAPI interface (HBAnyware utilities or third party applications) before performing PCI Hot Plug of an LPFC HBA. Use the following command to stop the HBAnyware application:

   ```
   #/usr/sbin/hbanyware/stop_hbanyware
   ```

2. Perform the PCI Hot Plug of the HBA.

3. Restart the application.

2. Deleting virtual ports or performing a PCI Hot Unplug may result in SCSI errors

When you delete a virtual port via the sysfs interface or perform a PCI Hot Unplug of an Emulex HBA, the kernel may report one of the following errors:

kernel: Synchronizing SCSI cache for disk
kernel: FAILED

or

SCSI error: return code = 0x00010000.

Workaround: These messages do not indicate a functional failure and can be ignored.

3. LPe12000 HBA may be identified as an "Unknown Device".

On RHEL5 and SLES10-SP1 distribution kernels, the output of the Linux distribution lspci utility incorrectly identifies the LPe12000 HBA as an "Unknown device".

Example: 0b:00.0 Fibre Channel: Emulex Corporation Unknown device f100 (rev 01)

Workaround: There is no workaround at this time. The Linux distribution lspci utility on RHEL5 and SLES10-SP1 distribution kernels do not yet recognize the LPe12000 HBA.

4. LPe12000 HBAs link speed incorrectly displays in the HBAnyware utility.

On RHEL5 and SLES10-SP1 distribution kernels, the HBAnyware utility shows "n/a" instead of the actual 8Gb speed**.**

Workaround: There is no workaround at this time. The FC Transport of the RHEL5 and SLES10-SP1 distributions do not yet support 8Gb speed.

5. A port may be disabled on a system boot or HBA reset with authentication enabled

After a system boot or an HBA reset, if a host is connected to a Cisco switch with firmware rev 3.1(3a) the switch may detect a false authentication failure and disable the port.

Workaround: Disable and re-enable the port from the switch management GUI.

6. LILO is not Supported

The LILO Boot Loader on i386 and x86_64 architectures is not supported for this driver stream. If the LILO boot loader is used, after the LPFC driver package is installed and upon reboot, an incorrect initial ramdisk is used. The system may not boot correctly.

Workaround: Use the GRUB boot loader. This is the default boot loader for most of the Linux distributions.

7. **Issue with the LPFC module order in the INITRD_MODULES list.**
On the SLES10 SP1 system, if another SCSI driver such as aic79xx, is loaded right after the LPFC driver through the initrd image, an interruption might occur in the SCSI mid-layer discovery process on the LUNs connected to LPFC's Fibre Channel. This interruption can prevent the release of the SCSI discovery reference count and the LPFC driver cannot unload.

Workaround: Do not add SCSI drivers right after the LPFC module in the INITRD_MODULES list.

8. **The LPFC driver may not finish discovery when two initiator ports are swapped.**
This causes all devices accessible through one or both of these initiator ports to time out and all I/O to fail.

Workaround: Do one of the following:

- When swapping cables replace each cable, one at a time, and allow for discovery to complete before replacing the next cable. To determine if discovery is complete read the "state" sysfs parameter.

- When swapping cables, allow devloss timeout to fire before replacing the cables. (This fails all outstanding I/O)

9 . **The "Suspend to Disk and Resume Support" feature is not supported in the LPFC driver.**
If you attempt to suspend to disk using the command "#echo disk > /sys/power/state", the LPFC driver encounters a kernel Oops.

Workaround: There is no workaround at this time. The sysfs parameter "/sys/power/state" is used to suspend and resume the system. The LPFC driver does not support this sysfs parameter. Do not attempt to use this sysfs parameter when the LPFC driver is loaded.

10. **Deleted virtual ports may appear to be mounted, but are inaccessible.**
While Emulex provides management utilities to enable you to delete virtual ports, the LPFC driver cannot detect whether devices accessed through a virtual port are in use. You can delete a virtual port even when devices accessible through the virtual port are mounted or when I/O is outstanding to the device. If file systems are mounted on a virtual port and that virtual port is deleted, the file systems still appear to be mounted but are not be accessible.

Workaround: Before deleting virtual ports, prepare the system affected by unmounting all the devices accessible through the virtual ports, and verifying that there is no outstanding I/O.

11. **4 Gb/s HBAs in virtualized environments that use Direct I/O or SFPT do not Initialize.**
Default driver configuration fails to initialize 4 Gb/s HBAs in virtualized environments that use Direct I/O or SFPT(Storage Fixed Pass through) .This may result in a system hang or uninitialized LPFC HBA in Intel VT-d and AMD-V IOMMU systems.

Workaround: Load the LPFC driver with the following driver parameters set:

lpfc_hostmem_hgp=1

lpfc_sli_mode=2

For example: # modprobe lpfc lpfc_hostmem=1 lpfc_sli_mode=2

Note: A side effect of this workaround is that virtual ports are no longer be supported by the LPFC driver when lpfc_sli_mode is set to 2.

12. Potential error messages when removing the driver kit

The driver kit removal process uses the "lpfc-install -u" command. The previous in-box LPFC driver version was saved as part of the driver kit install process. The "lpfc-install -u" restores and activates the in-box LPFC driver. However, the driver kit uninstallation process does not remove any entries in the Linux distribution configuration file (modprobe.conf). As such, parameters that would have been valid for the just-removed driver version and entered in the modprobe.conf file, are also used to load the just-restored in-box driver version. This can create problems if these two conditions exist:

- The just-removed driver version includes module parameters that did not exist in the older just-restored driver version, and
- One or more of these module parameters are included in the configuration file (modprobe.conf).

Errors appear similar to the following:

Loading LPFC Driver .FATAL: Error inserting lpfc

(/lib/modules/<kernel_revision>/kernel/drivers/scsi/lpfc/lpfc.ko):

Unknown symbol in module, or unknown parameter (see dmesg)

Workaround: Remove all entries in the Linux configuration file (modprobe.conf) that list the LPFC driver module parameters, that is entries that begin with:

options lpfc ...

Then uninstall the driver kit.

Note: To find the module parameters supported by a LPFC driver module, run the following command:

```
# modinfo <driver_dir>/lpfc.ko
```

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